

FIG. 1

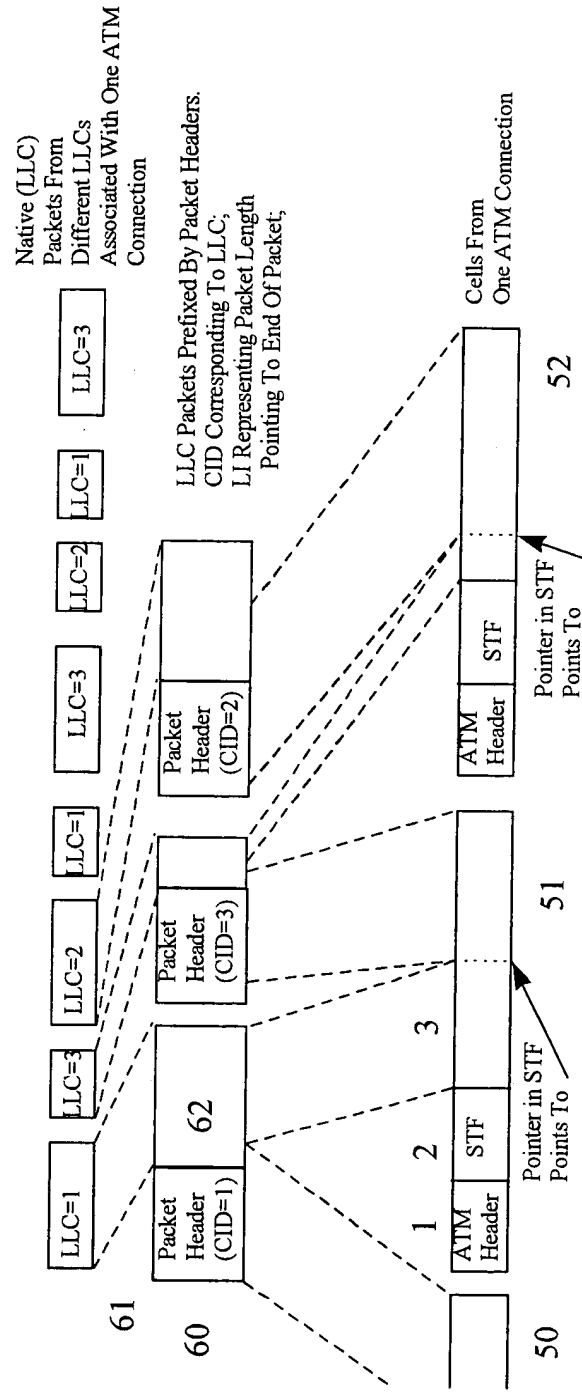


FIG. 2

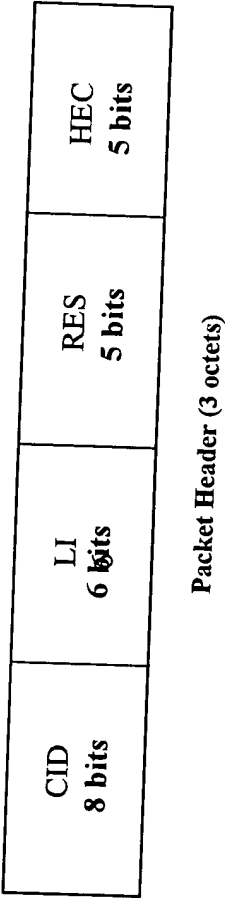


FIG. 3

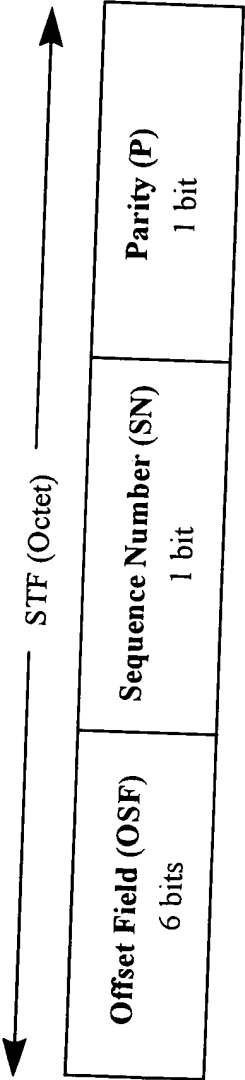


FIG. 4

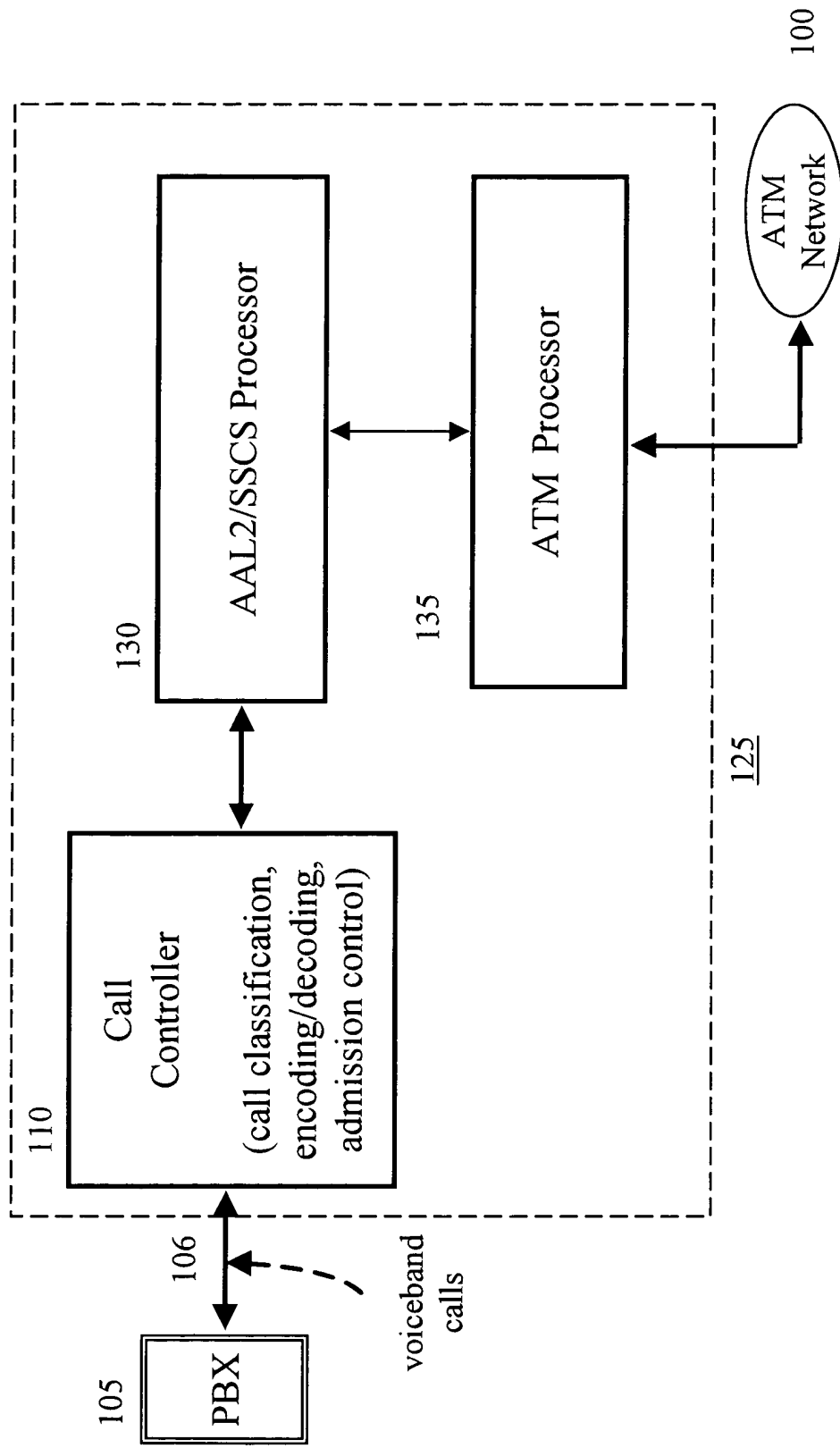


FIG. 5

# TRAFFIC TYPES AND BANDWIDTH

Call Type Identifier	Traffic Types	Bandwidth	Bandwidth including AAL2 overhead	Bandwidth including AAL2 and ATM overhead
0	G.727 Voice with silence elimination	32 kb/s (peak)	36.8 kb/s (peak) 14.7 kb/s (average)	41.5 kb/s (peak) 16.6 kb/s (average)
1	<del>14.4 kb/s to 56 kb/s</del> modem	40 kb/s (?)	44.8 kb/s	50.5 kb/s
2	28.8 kb/s to 56 kb/s modem	64 kb/s	68.8 kb/s	77.6 kb/s
3	G3 Facsimile	9.6 kb/s	14.4 kb/s	16.2 kb/s

- Assuming 5 ms AAL2/SSCS packetization interval in all cases.
- Voice activity = 40 % (average talkspurt = 400 ms, and average silence = 600 ms).

FIG. 6

# **BLOCK (or BIT) DROPPING FOR CONGESTION CONTROL** **INPUT BLOCK DROPPING: Block-Dropping at Input of AAL2 Queue**

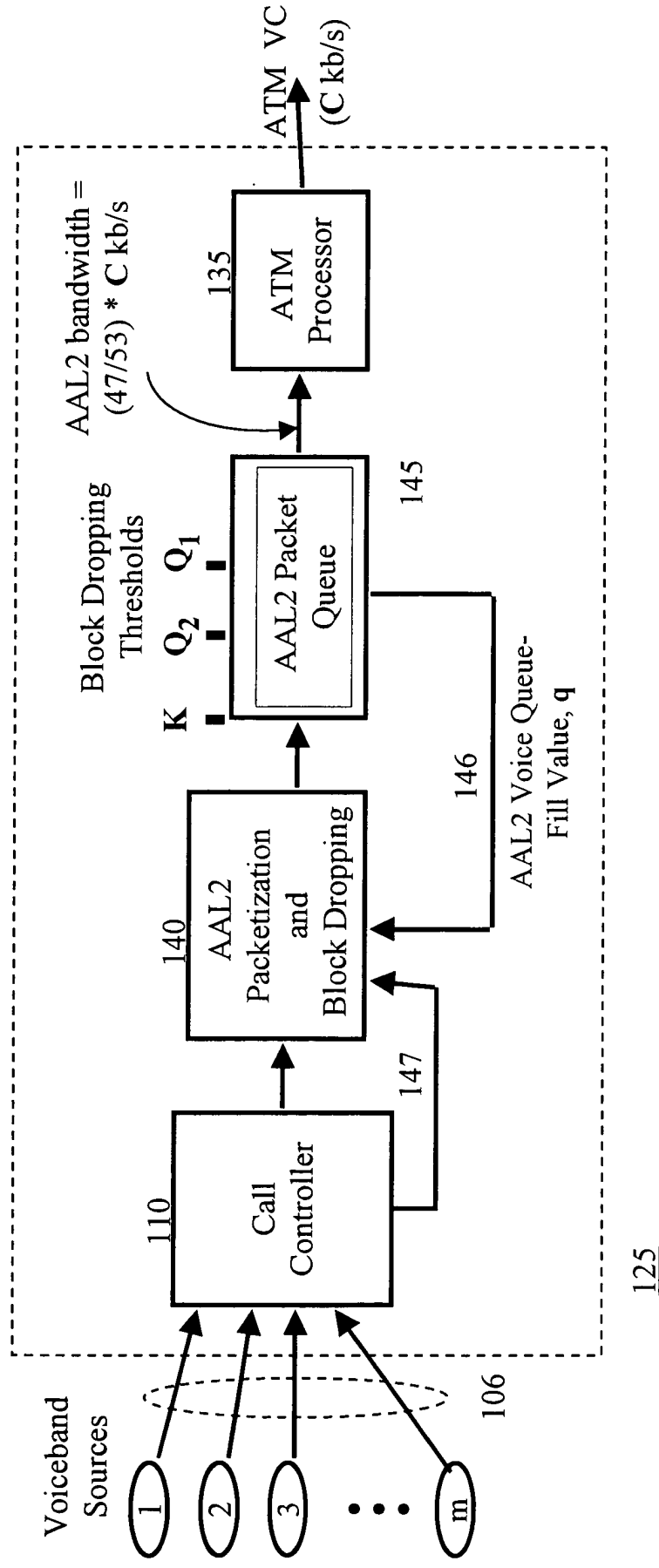


FIG. 7

# EFFECTIVE BANDWIDTH ( $V_n$ ) AND STATISTICAL MULTIPLEXING GAIN

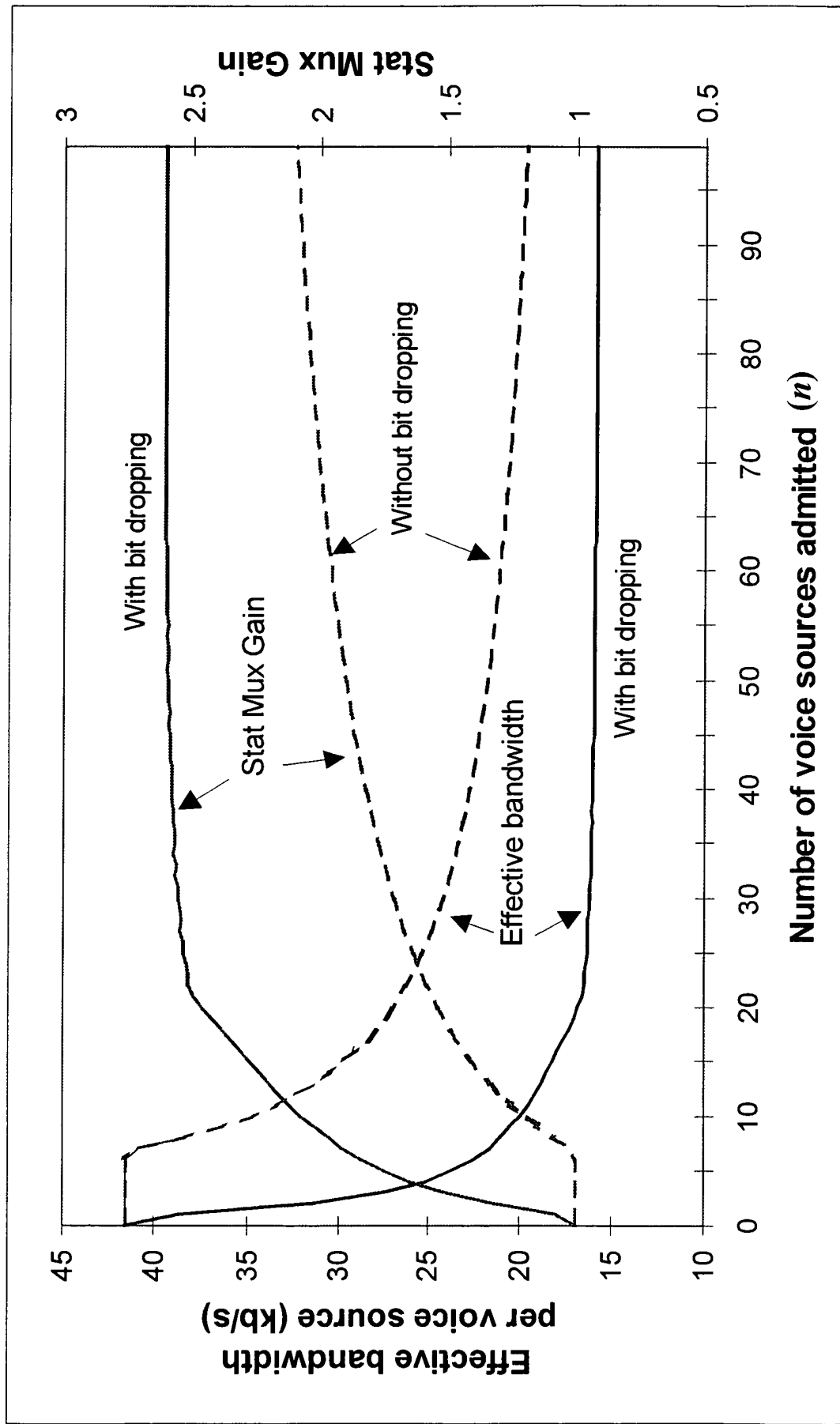


FIG. 8

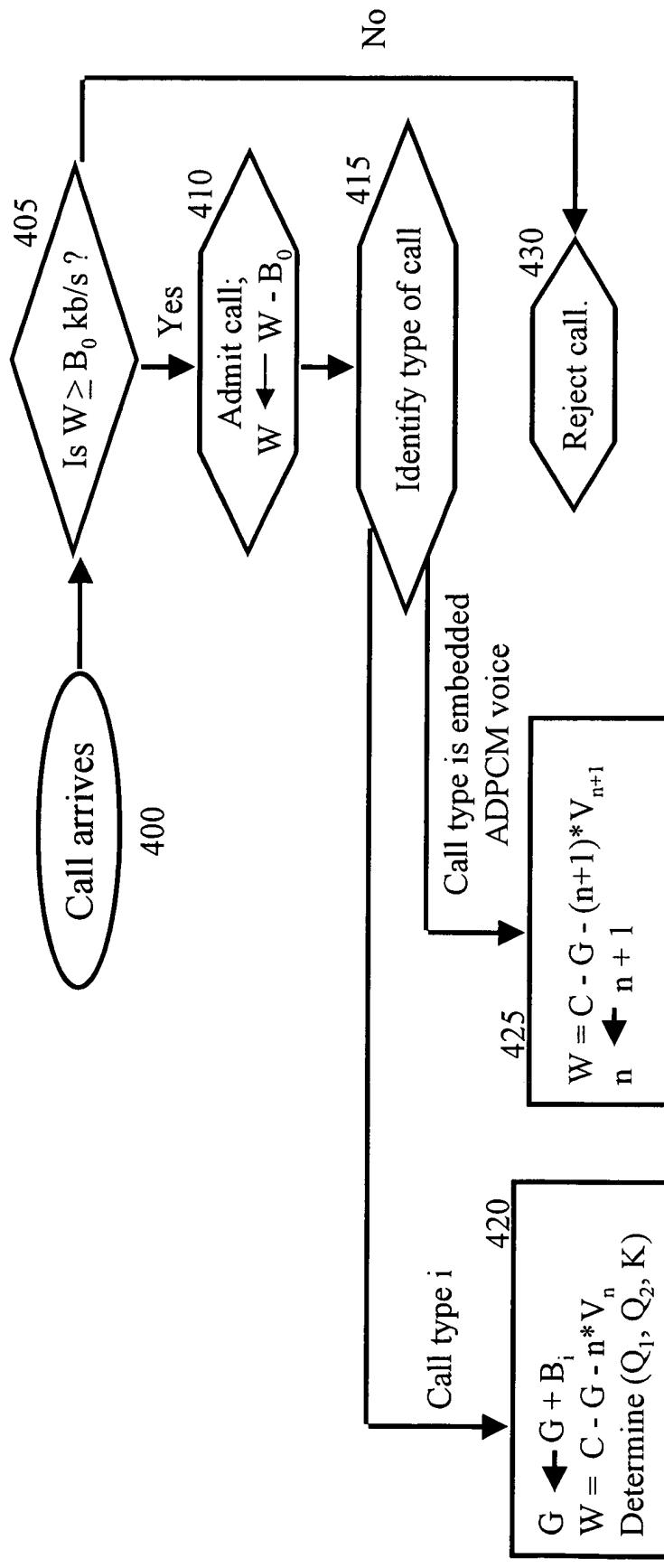


FIG. 9

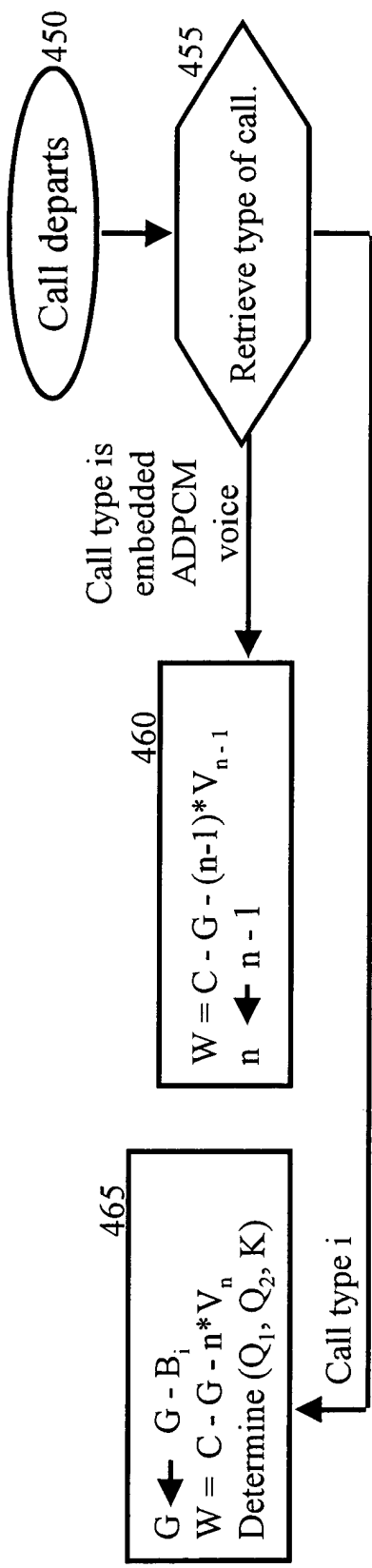




FIG. 10

# ORGANIZATION OF VOICE PACKET

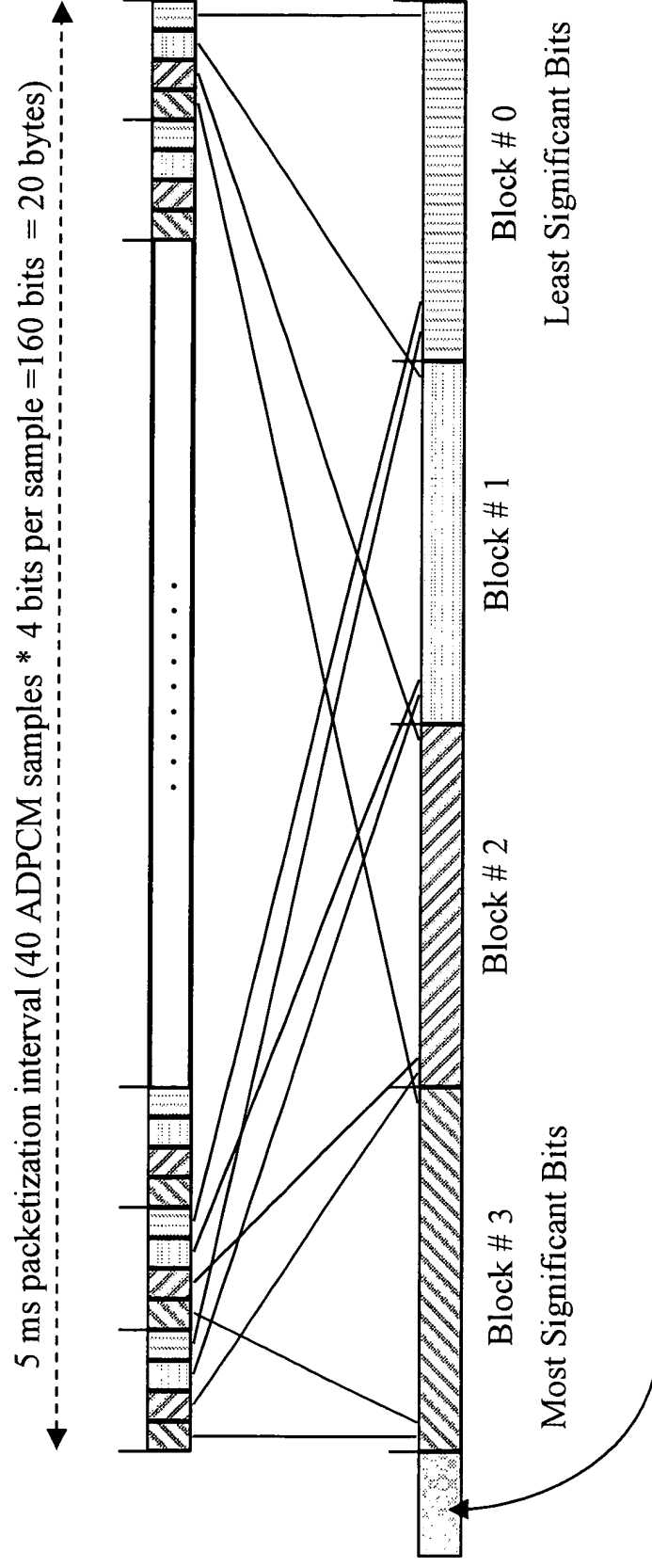


FIG. 11

**Congestion State Table**

<b>Congestion State</b>	<b>Blocks Dropped from AAL2 Packet</b>	<b>Packet Size</b>
<b>Low ( <math>0 \leq q \leq Q_1</math> )</b>	None	23 bytes
<b>Moderate ( <math>Q_1 \leq q \leq Q_2</math> )</b>	Block 0	18 bytes
<b>High ( <math>Q_2 \leq q \leq K-1</math> )</b>	Blocks 0 and 1	13 bytes
<b>Buffer Overflow ( <math>q \geq K</math> )</b>	Whole packet dropped	--

FIG. 12

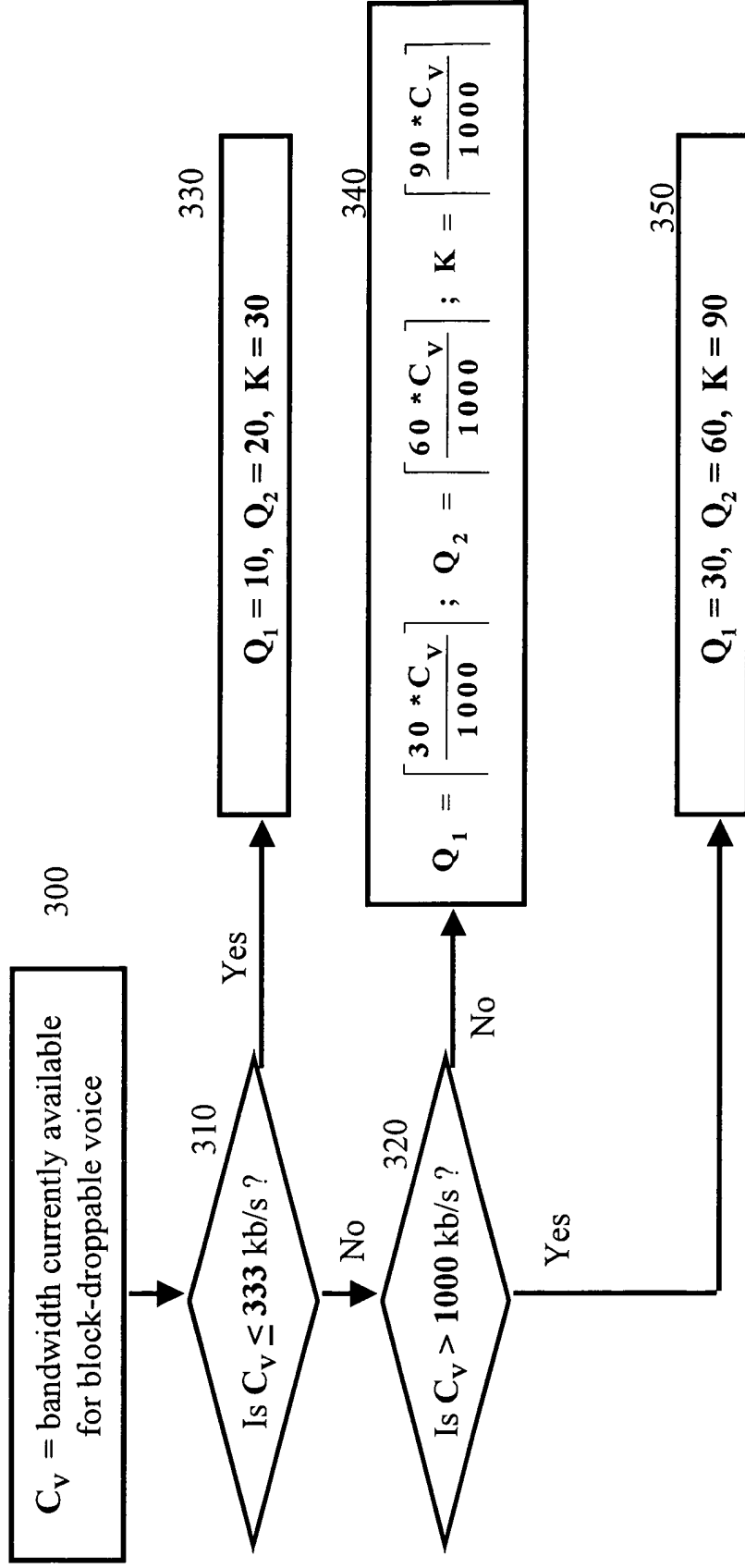
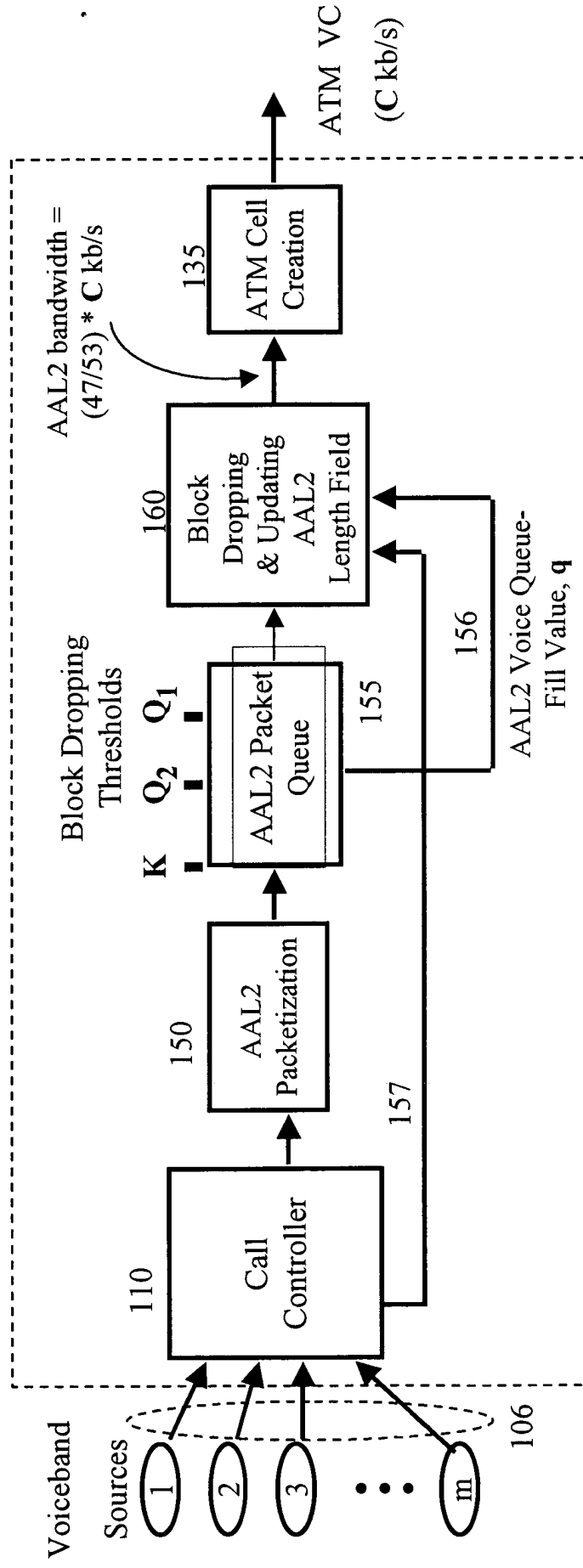


FIG. 13

# **BLOCK (or BIT) DROPPING FOR CONGESTION CONTROL** **OUTPUT BLOCK DROPPING: Block-Dropping at Output of AAL2 Queue**



600

FIG. 14

# **BLOCK (or BIT) DROPPING FOR CONGESTION CONTROL**

## **INPUT BLOCK DROPPING: Block-Dropping at Input of ATM Processor**

